

WHAT IS CLAIMED

1. A plasticized bone graft, comprising:
a cleaned bone graft comprising one or more plasticizers.
2. A plasticized bone graft suitable for transplantation into a human, comprising:
a bone graft having an internal matrix essentially free from bone marrow elements; and
one or more plasticizers contained in said internal matrix.
3. A plasticized bone graft, comprising:
a cleaned bone graft; and
one or more plasticizers, wherein said cleaned bone graft is impregnated with said one or
more plasticizers.
4. A method for producing a plasticized bone graft suitable for transplantation into a
human, comprising:
impregnating a cleaned bone graft with one or more plasticizers to produce a plasticized
bone graft.
5. The method of claim 4, said step of impregnating, comprising:
incubating said cleaned bone graft with a plasticizer composition comprising one or more
plasticizers and one or more biocompatible solvents.

6. The method of claim 5, wherein said one or more biocompatible solvents comprise one or more alcohols.

7. The method of claim 5, wherein incubating comprises soaking said cleaned bone graft in said plasticizer composition.

8. The method of claim 7, wherein said soaking is carried out under negative pressure.

9. The bone graft of any one of claims 1, 2, or 3, wherein said bone graft is suitable for direct transplant into a human without rehydration.

10. The method of claim 4, wherein said cleaned bone graft is essentially free from bone marrow elements.

11. The method of claim 6, wherein said one or more plasticizers are present in said plasticizer composition in a weight ratio of from 30 to 90 wt%, and said one or more alcohols are present in said plasticizer composition in a weight ratio of from 10 to 70 wt%.

12. The method of claim 11, wherein said plasticizer is glycerol and said alcohol is isopropyl alcohol.

13. The method of claim 12, wherein said glycerol is present at 30 wt% and said isopropyl alcohol is present at 70 wt%.

14. The bone graft of any one of claims 1, 2, or 3, wherein said bone graft is a non-demineralized bone graft.

15. The bone graft of any one of claims 1, 2, or 3, wherein said bone graft is a load-bearing bone graft.

5 16. A plasticized soft tissue graft suitable for transplantation into a human, comprising:
a cleaned soft tissue graft having an internal matrix; and
one or more plasticizers contained in said internal matrix.

10 17. A plasticized soft tissue graft, comprising:
a cleaned, soft tissue graft; and
one or more plasticizers, wherein said cleaned soft tissue graft is impregnated with said
one or more plasticizers.

18. A plasticized soft tissue graft, comprising:
a cleaned, soft tissue graft comprising one or more plasticizers.

15 19. A method for producing a plasticized soft tissue graft suitable for transplantation into
a human, comprising:
impregnating a cleaned, soft tissue graft with one or more plasticizers to produce a
plasticized soft tissue graft.

20. The method of claim 19, said step of impregnating, comprising:
incubating said cleaned, soft tissue graft with a plasticizer composition comprising one or more plasticizers and one or more biocompatible solvents.

21. The method of claim 20, wherein said one or more biocompatible solvents comprise one or more alcohols.

22. The method of claim 20, wherein incubating comprises soaking said cleaned, soft tissue graft in said plasticizer composition.

23. The method of claim 22, wherein said soaking is carried out under negative pressure.

24. The soft tissue graft of any one of claims 16, 17, or 18, wherein said soft tissue graft is suitable for direct transplant into a human without rehydration.

25. The method of claim 21, wherein said one or more plasticizers are present in said plasticizer composition in a weight ratio of from 30 to 90 wt%, and said one or more alcohols are present in said plasticizer composition in a weight ratio of from 10 to 70 wt%.

26. The method of claim 25, wherein said plasticizer is glycerol and said alcohol is isopropyl alcohol.

2) The method of claim 26, wherein said glycerol is present at 30 wt% and said

28. The soft tissue graft of any one of claims 16, 17, or 18, wherein said soft tissue graft

29. The soft tissue graft of any one of claims 16, 17, or 18, wherein said soft tissue graft

30. A plasticized bone graft, comprising:

a cleaned, non-demineralized bone graft comprising one or more plasticizers.

31. A plasticized load-bearing bone graft, comprising:

a cleaned, load-bearing bone graft comprising one or more plasticizers.

32. A plasticized load-bearing soft tissue graft, comprising:

a cleaned, load-bearing soft tissue graft comprising one or more plasticizers.